Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the present application:

1-53 (canceled).

54 (previously presented): A control system for automatically controlling the state of the headlamps of a controlled vehicle, said control system comprising:

an optical system for imaging external sources of light within a predetermined field of view; and

an imaging processing system for processing images from said optical system and providing a control signal for controlling the state of the headlamps as a function of the output of pixels imaging the same spectral band of light.

55 (previously presented): The control system as recited in Claim 54, wherein said optical system is configured to image light sources over a predetermined horizontal and vertical range defining said predetermined field of view.

56 (previously presented): The control system as recited in Claim 55, wherein said optical system is fixed relative to said controlled vehicle.

57 (previously presented): The control system as recited in Claim 55, wherein said optical system includes an image array sensor containing a plurality of pixels.

58 (previously presented): The control system as recited in Claim 57, wherein said pixel image array sensor is a CMOS active pixel image array sensor.

59 (previously presented): The control system as recited in Claim 55, wherein said optical system includes means for baffling light outside said predetermined field of view.

60 (previously presented): A control system for automatically controlling the state of the headlamps of a controlled vehicle, said control system comprising:

an optical system for imaging external sources of light within a predetermined field of view, said optical system including an image array sensor containing a plurality of pixels; and

an imaging processing system for processing images from said optical system and providing a control signal for controlling the state of the headlamps as a function of the output of pixels imaging the same spectral band of light, wherein said optical system is further configured to spatially segregate light sources having different spectral compositions on said pixel image array sensor.

61 (previously presented): A control system as recited in Claim 54, wherein said image processing system processes images on a frame by frame basis and examines various frames in order to detect the motion of various light sources relative to said controlled vehicle.

62 (previously presented): The control system as recited in Claim 61, wherein said image processing system compares successive frames to detect vertical motion of said light sources relative to said controlled vehicle.

63 (previously presented): The control system as recited in Claim 62, wherein said light sources are overhead street lamps.

64 (previously presented): The control system as recited in Claim 63, wherein said image processing system compares successive frames to detect horizontal motion of said light sources relative to said controlled vehicle.

65 (previously presented): The control system as recited in Claim 64, wherein said light sources are reflected lights from stationary reflectors relative to said controlled vehicle.

66 (previously presented): The control system as recited in Claim 54, wherein said optical system includes means for filtering infrared light from said external sources of light.

67 (previously presented): The control system as recited in Claim 54, wherein said optical system includes two or more lenses and an image array sensor.

68 (previously presented): A control system for automatically controlling the state of the headlamps of a controlled vehicle, said control system comprising:

an optical system for imaging external sources of light within a predetermined field of view; and

an imaging processing system for processing images from said optical system and providing a control signal for controlling the state of the headlamps as a function of the output of pixels imaging the same spectral band of light, wherein said image processing system includes at least two photosensor arrays, and wherein said optical system comprises at least two lenses, one of said at least two lenses being configured to image onto one of said at least two photosensor arrays, and the other of said at least two lenses being configured to image onto the other of said at least two photosensor arrays.

69 (previously presented): The control system as recited in Claim 68, further including means for filtering the light through said at least two lenses such that one of said at least two lenses filters light below a first predetermined wavelength and another of said at least two lenses filters light above a second predetermined wavelength.

70 (previously presented): The control system as recited in Claim 69, wherein said first and second predetermined wavelengths are the same.

71 (previously presented): The control system as recited in Claim 69, wherein one of said at least two lenses transmits light having a wavelength longer than 600 nm defining a red filter for imaging taillights on one of said at least two photosensor arrays.

72 (previously presented): The control system as recited in Claim 71, wherein tail lamps are detected by comparing the relative output of at least one pixel imaged through the red filter with the output of a selected group of neighboring pixels and indicating a taillight detection when the output of said at least one pixel imaged through the red filter is a predetermined percentage higher than the pixel output of said selected group of neighboring pixels.

73 (previously presented): The control system as recited in Claim 71, wherein the other of said at least two lenses transmits light having a wavelength shorter than 600 nm defining a cyan filter for imaging headlamps on the other of said at least two photosensor arrays.

74 (previously presented): The control system as recited in Claim 73, wherein headlamps are detected by comparing the relative output of at least one pixel imaged through the cyan filter with the output of a selected group of pixels and indicating a headlamp when the output of said at least one pixel imaged through the cyan filter is a predetermined percentage higher than the output of said selected group of pixels.

75 (previously presented): The control system as recited in Claim 73, wherein said image processing system includes means for processing images from said optical system on a frame by frame basis.

76 (previously presented): The control system as recited in Claim 75, wherein said image processing system includes means for detecting external headlamps in each frame.

77 (previously presented): The control system as recited in Claim 76, wherein said image processing system includes means for detecting taillights in each frame.

78 (previously presented): The control system as recited in Claim 77, wherein said image processing system includes a dim counter, which is incremented, whenever a frame is processed which contains at least one taillight or headlamp.

79 (previously presented): The control system as recited in Claim 78, wherein said dim counter is reset whenever a frame containing no headlamps or taillights is processed.

80 (previously presented): The control system as recited in Claim 79, wherein said control signal is generated as a function of the value of the dim counter.

81 (previously presented): The control system as recited in Claim 77, wherein said image processing system includes an undim counter, which is incremented each time a clear frame is processed.

82 (previously presented): The control system as recited in Claim 81, wherein said undim counter is reset when a headlamp or taillight is detected in a frame.

83 (previously presented): A control system for automatically controlling the state of the headlamps of a controlled vehicle, said control system comprising:

an optical system for imaging external sources of light within a predetermined field of view, said optical system including two or more lenses and an image array sensor; and

an imaging processing system for processing images from said optical system and providing a control signal for controlling the state of the headlamps as a function of the output of pixels imaging the same spectral band of light, wherein said image processing system includes means for computing the average output of a selected group of neighboring pixels in said image array sensor.

84 (previously presented): The control system as recited in Claim 54, wherein said control signal is used to turn the high beam headlamps completely on or completely off.

85 (previously presented): The control system as recited in Claim 54, wherein said control signal is used to continuously vary the brightness level of said high beam headlamps between completely on and completely off.

86 (previously presented): The control system as recited in Claim 85, wherein said control signal is used to vary the duty cycle of said headlamps.

87 (previously presented): A control system for automatically controlling the state of the headlamps of a controlled vehicle, said control system comprising:

an optical system for imaging external sources of light within a predetermined field of view; and

an imaging processing system for processing images from said optical system and providing a control signal for controlling the state of the headlamps as a function of the output of pixels imaging the same spectral band of light, wherein said optical system includes an image array sensor containing a plurality of pixels, and where the control signal is based on a pixel threshold value that varies as a function of the predetermined field of view imaged by said plurality of pixels.

88 (previously presented): A control system for automatically controlling the state of the headlamps of a controlled vehicle, said control system comprising:

an optical system for imaging external sources of light within a predetermined field of view; and

an imaging processing system for processing images from said optical system and providing a control signal for controlling the state of the headlamps as a function of the output of pixels imaging the same spectral band of light, wherein said optical system includes an image array sensor containing a plurality of pixels, and where the image processing system is configured to respond to a lower output from pixels imaging the predetermined field of view directly in front of the controlled vehicle than from pixels imaging other regions of the predetermined field of view.

89 (previously presented): A control system for automatically controlling the state of the headlamps of a controlled vehicle, the control system comprising:

an optical system for imaging external sources of light within a predetermined field of view, the optical system including at least two photosensor arrays and at least two lenses,

each of said at least two lenses being configured to image said predetermined field of view onto a respective one of said at least two photosensor arrays; and

an image processing system for processing images from said optical system and providing a control signal for controlling the headlamps as a function of the relative output of the pixels imaging said external sources of light.

90 (previously presented): The control system as recited in Claim 89, wherein said optical system is fixed relative to said controlled vehicle.

91 (previously presented): The control system as recited in Claim 89, further including means for filtering the light through said at least two lenses.

92 (previously presented): The control system as recited in Claim 91, wherein said filtering means includes a filter dye for said at least two lenses.

93 (previously presented): The control system as recited in Claim 89, having a first lens and a second lens.

94 (previously presented): A control system for automatically controlling the high beam state of the headlamps of a controlled vehicle comprising:

an optical system for imaging external sources of light within a predetermined field of view onto an image sensor containing a plurality of pixels, said optical system configured to selectively transmit one or more predetermined spectral bands of light, and said optical system configured to image light within each predetermined spectral band onto particular portions of said image sensor; and

an image processing system for processing images from said optical system and providing a control signal for controlling the high beam state of the headlamps as a function of the output of one or more pixels within one of said portions relative to the output of other pixels within the same portion.

95 (previously presented): A control system for automatically controlling the high beam state of the headlamps of a controlled vehicle comprising:

an optical system for imaging external sources of light within a predetermined field of view onto an image sensor containing a plurality of pixels, said optical system configured to selectively transmit one or more predetermined spectral bands of light, and said optical system configured to image light within each predetermined spectral band onto particular portions of said image sensor; and

an image processing system for processing images from said optical system and providing a control signal for controlling the high beam state of the headlamps as a function of the output of one or more pixels within one of said portions relative to the output of other pixels within the same portion, wherein said image processing system provides a control signal for controlling the high beam state of the headlamps as a function of the output of pixels within one of said portions relative to the output of pixels within another one of said portions and where each of said pixels within one portion images substantially the same region of space as a corresponding pixel within the other portion.

96 (previously presented): The control system recited in Claim 95, wherein said optical system contains two or more filters to transmit a predetermined spectral band of light and each filter being configured to image said field of view onto different designated portions of said image sensor.

97 (previously presented): The control system recited in Claim 96, wherein the optical system is configured to prevent light passing through one of said filters from arriving onto the portion of the image sensor designated for light imaged by another of said two or more filters.

98 (previously presented): The control system as recited in Claim 94, wherein said optical system contains a baffling means to prevent light from outside of said predetermined field of view from arriving on said image sensor.

99 (canceled).